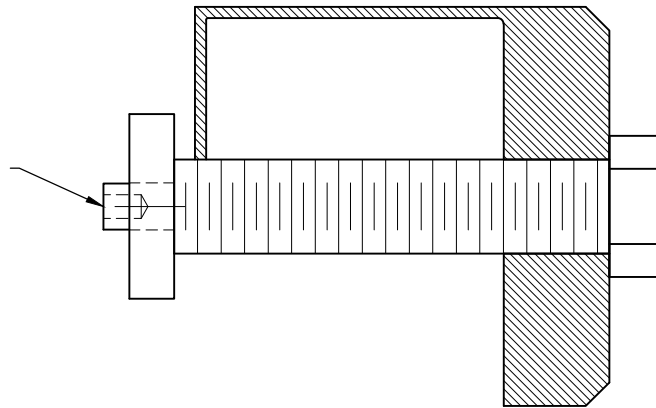


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REVISIONS				
REV	DESCRIPTION	DATE	INITIAL	APPROVED
1	DESIGNED PER HELI PRODUCTS TOOLS.	9/28/09	WP	DW
2	CH'D WASHER TO P/N -03 & S.F. TO 5, CH'D ALL THREAD TO HEX HEAD CAP SCREW P/N -05 & S.F. TO 3 PER D.W., DELETED -03 WELDMENT.	11/17/09	RJC	RW
2A	CORRECTED T/N WAS RBEA93-3307-00 IS RBE350A93-3307-00.	11/5/13	RJC	RW

SEE ATTACHED DEVIATION

PRESS EXPAND UNTIL IT
RETAINS WASHER YET STILL
ALLOWS WASHER TO ROTATE.




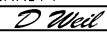
UNDER REVIEW

URF 19-933 19.10.23 (VM)

UNDER REVIEW
ECR: HB ECR 139

ASSY QTY	ASSY QTY	B/O	PART #	UNIT QTY	DESCRIPTION	MATERIAL	B/O INFORMATION OR SPECIFICATIONS	Pg.
			-01	1	RETRACTOR	4140 Q&T	Ø2-1/4 x 2-3/8	2
			-03	1	WASHER	1018	Ø1 x 3/8	3
		B/O	-05	1	HEX HEAD CAP SCREW	STEEL	1/2-20 UNF x 3 MCMaster CARR #92620A750	4
ASSY #								

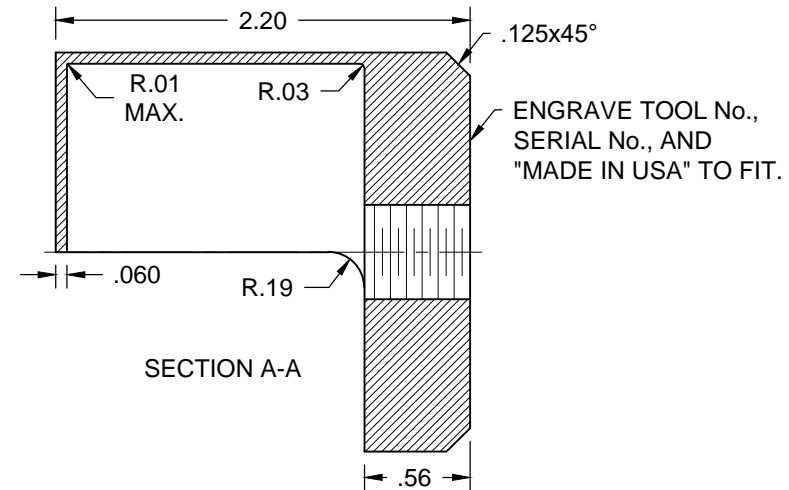
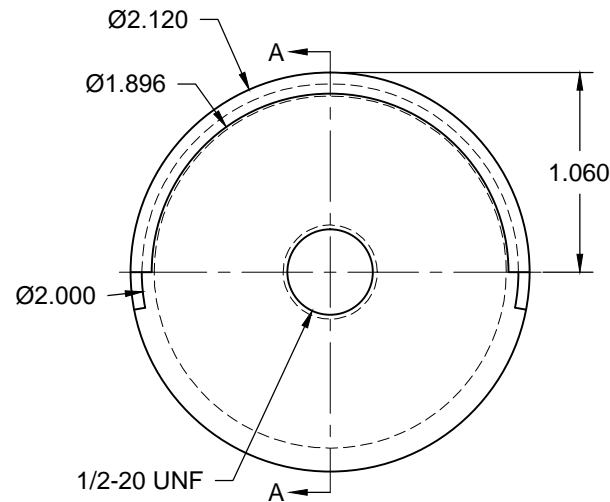
 RED BARN MACHINE	
TITLE TAIL GEARBOX SEAL EXTRACTOR	
DWG NO. RBE350A93-3307-00	REV 2A
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
TOLERANCES ON: DECIMALS .XXX ± .005 .XX ± .01 .X ± .1	
FRACTIONS ± 1/32 ANGLES ± 5°	
UNLESS OTHERWISE SPECIFIED 1. BREAK ALL SHARP EDGES 015 x 45° PR .015 R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE NTS	DATE 9/28/09
SHEET 1 of 4	

DRAWN BY: PERRITT
APPROVED 
HEAT TREAT FINISH SPEC
USED ON MODEL EUROCDPTER AS350/355

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REVISIONS				
REV	DESCRIPTION	DATE	INITIAL	APPROVED

SEE ATTACHED DEVIATION



UNDER REVIEW

URF 19-933 19.10.23 (VM)

-01
EXTRACTOR

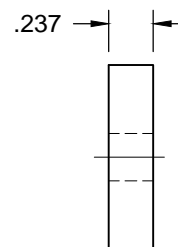
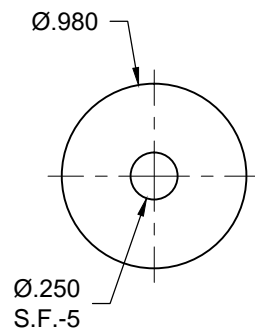
UNDER REVIEW
ECR: HB ECR 139

RED BARN MACHINE			
TITLE TAIL GEARBOX SEAL EXTRACTOR			
DWG NO. RBE350A93-3307-00-01			REV 2A
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		DRAWN BY: PERRITT	
TOLERANCES ON:		APPROVED <i>D. Weil</i>	
DECIMALS		HEAT TREAT	
.XXX ± .005		FINISH SPEC	
.XX ± .01		BLACK OXIDE	
.X ± .1		USED ON MODEL	
UNLESS OTHERWISE SPECIFIED 1. BREAK ALL SHARP EDGES .015 x 45° PR .015 R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING		EUROCOPTER AS350/355	
SCALE NTS	DATE 9/28/09	SHEET 2 of 4	

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REVISIONS				
REV	DESCRIPTION	DATE	INITIAL	APPROVED
2	CH'D WASHER TO P/N -03 & S.F. TO 5, CH'D ALL THREAD TO HEX HEAD CAP SCREW P/N -05 & S.F. TO 3 PER D.W., DELETED -03 WELDMENT.	11/17/09	RJC	RW


SEE ATTACHED DEVIATION



(-03)
WASHER

UNDER REVIEW
ECR: HB ECR 139

UNDER REVIEW
URF 19-933 19.10.23 (VM)

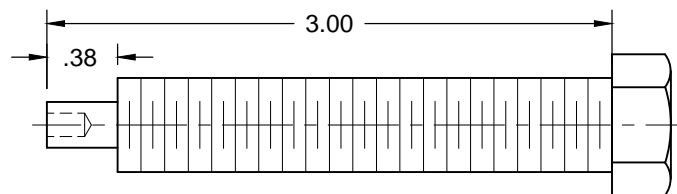
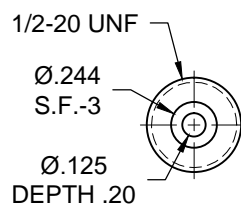
 RED BARN MACHINE	
TITLE TAIL GEARBOX SEAL EXTRACTOR	
DWG NO. RBE350A93-3307-00-03	REV 2A
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
TOLERANCES ON:	
DECIMALS .XXX ± .005	FRACTIONS ± 1/32
.XX ± .01	ANGLES ± 5°
.X ± .1	
UNLESS OTHERWISE SPECIFIED 1. BREAK ALL SHARP EDGES .015 x 45° PR .015 R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE NTS	DATE 9/28/09
SHEET 3 of 4	

DRAWN BY: PERRITT
APPROVED: *D. Weil*
HEAT TREAT: BLACK OXIDE
FINISH SPEC: USED ON MODEL
EUROCDPTER AS350/355

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REVISIONS				
REV	DESCRIPTION	DATE	INITIAL	APPROVED
2	CH'D WASHER TO P/N -03 & S.F. TO 5, CH'D ALL THREAD TO HEX HEAD CAP SCREW P/N -05 & S.F. TO 3 PER D.W., DELETED -03 WELDMENT.	11/17/09	RJC	RW

SEE ATTACHED DEVIATION



(-05)

HEX HEAD CAP SCREW

UNDER REVIEW

URF 19-933 19.10.23 (VM)

UNDER REVIEW
ECR: HB ECR 139

RED BARN MACHINE	
TITLE TAIL GEARBOX SEAL EXTRACTOR	
DWG NO. RBE350A93-3307-00-05	REV 2A
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
TOLERANCES ON:	
DECIMALS .XXX ± .005 FRACTIONS ± 1/32 .XX ± .01 ANGLES ± 5° .X ± .1	
UNLESS OTHERWISE SPECIFIED 1. BREAK ALL SHARP EDGES .015 x 45° PR .015 R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE NTS	DATE 9/28/09
SHEET 4 of 4	

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. <u>RBE350A93-3307-00</u> NCR No. _____		DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Cross tube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>																																																																			
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval March 23, 2018																																																																
Description Work Order Deviation				Disposition				Completed By																																																															
As an alternative to expanding the end of the -05 Hex Head Cap Screw to secure the -03 Washer a countersunk screw can be used to secure the -03 Washer. Cut -05 Hex Head Cap Screw 2.63" long and tap 1/4"-20 hole 1.0" deep (on threaded end). Drill 0.25" hole through center of -03 Washer and CSK 0.55" x 82 deg, mfg from 303/304/316 SS, no black oxide required. Apply Loctite 262/263 to McMaster 91253A540 Screw or equivalent and assemble -03 and -05 together. (washer must rotate free),				- This deviation is acceptable. - The fit, form and function of the tool will be as originally intended.				Lead hand / Supervisor Approval Verification _____																																																															
								QC / QA Coordinator Approval _____																																																															

Root Cause <table style="width:100%;"> <tr> <td>Environment <input type="checkbox"/></td> <td>No Re-verification <input type="checkbox"/></td> </tr> <tr> <td>Design <input checked="" type="checkbox"/></td> <td>Operator <input type="checkbox"/></td> </tr> <tr> <td>Doc/Data <input type="checkbox"/></td> <td>Offset/Setup <input type="checkbox"/></td> </tr> <tr> <td>Equip/Tooling <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> </tr> <tr> <td>Handling/Pre <input type="checkbox"/></td> <td>Training <input type="checkbox"/></td> </tr> <tr> <td>Material <input type="checkbox"/></td> <td>Use for Testing <input type="checkbox"/></td> </tr> <tr> <td>Internal Transport <input type="checkbox"/></td> <td>Poor Information <input type="checkbox"/></td> </tr> <tr> <td>Tribal Knowledge <input type="checkbox"/></td> <td>Rushing <input type="checkbox"/></td> </tr> <tr> <td>LOA <input type="checkbox"/></td> <td>Product Improvement <input type="checkbox"/></td> </tr> <tr> <td>Substation <input type="checkbox"/></td> <td>Process Improvement <input type="checkbox"/></td> </tr> <tr> <td>Past Expiry Date <input type="checkbox"/></td> <td>Manufacturing Process <input type="checkbox"/></td> </tr> <tr> <td>Misidentified <input type="checkbox"/></td> <td>Past Due <input type="checkbox"/></td> </tr> </table>				Environment <input type="checkbox"/>	No Re-verification <input type="checkbox"/>	Design <input checked="" type="checkbox"/>	Operator <input type="checkbox"/>	Doc/Data <input type="checkbox"/>	Offset/Setup <input type="checkbox"/>	Equip/Tooling <input type="checkbox"/>	Supplier <input type="checkbox"/>	Handling/Pre <input type="checkbox"/>	Training <input type="checkbox"/>	Material <input type="checkbox"/>	Use for Testing <input type="checkbox"/>	Internal Transport <input type="checkbox"/>	Poor Information <input type="checkbox"/>	Tribal Knowledge <input type="checkbox"/>	Rushing <input type="checkbox"/>	LOA <input type="checkbox"/>	Product Improvement <input type="checkbox"/>	Substation <input type="checkbox"/>	Process Improvement <input type="checkbox"/>	Past Expiry Date <input type="checkbox"/>	Manufacturing Process <input type="checkbox"/>	Misidentified <input type="checkbox"/>	Past Due <input type="checkbox"/>	FAULT CATEGORY <table style="width:100%;"> <tr> <td>Pressure/Forced <input type="checkbox"/></td> <td>Temperature/Cure <input type="checkbox"/></td> <td>Power Loss/Surge <input type="checkbox"/></td> <td>Positioned Wrong <input type="checkbox"/></td> </tr> <tr> <td>Bending <input type="checkbox"/></td> <td>Set-up <input type="checkbox"/></td> <td>Folio/Program <input type="checkbox"/></td> <td>Outside Dimensions <input type="checkbox"/></td> </tr> <tr> <td>Centre Not Concentric <input type="checkbox"/></td> <td>BOM/Route <input type="checkbox"/></td> <td>Grain <input type="checkbox"/></td> <td>Over/Under tolerance <input type="checkbox"/></td> </tr> <tr> <td>Cracks <input type="checkbox"/></td> <td>Broken/Damage/Defect <input type="checkbox"/></td> <td>Weld <input type="checkbox"/></td> <td>Part Incorrect <input type="checkbox"/></td> </tr> <tr> <td>Crimp/Kink/Ripple/Wave <input type="checkbox"/></td> <td>Inspection Incomplete/Unqualified <input type="checkbox"/></td> <td>Wrong Stock Pulled <input type="checkbox"/></td> <td>Part Lost/Missing <input type="checkbox"/></td> </tr> <tr> <td>Cuffs <input type="checkbox"/></td> <td>Contamination <input type="checkbox"/></td> <td>Out of Sequence <input type="checkbox"/></td> <td>Part Moved <input type="checkbox"/></td> </tr> <tr> <td>Crushing <input type="checkbox"/></td> <td>Countersink <input type="checkbox"/></td> <td>Off-set <input type="checkbox"/></td> <td>Drawing <input type="checkbox"/></td> </tr> <tr> <td>Heat Treat <input type="checkbox"/></td> <td>Cut Too Short <input type="checkbox"/></td> <td>Mislabeled <input type="checkbox"/></td> <td>Finish <input type="checkbox"/></td> </tr> <tr> <td>Wave/Twist in Tube <input type="checkbox"/></td> <td>Instructions Incomplete/Unclear <input type="checkbox"/></td> <td>Fit/Function <input type="checkbox"/></td> <td>Misread <input type="checkbox"/></td> </tr> <tr> <td>Marks/Chatter <input type="checkbox"/></td> <td>Drill Holes <input type="checkbox"/></td> <td>Misaligned/off center <input type="checkbox"/></td> <td>Turning Sequence <input type="checkbox"/></td> </tr> </table>				Pressure/Forced <input type="checkbox"/>	Temperature/Cure <input type="checkbox"/>	Power Loss/Surge <input type="checkbox"/>	Positioned Wrong <input type="checkbox"/>	Bending <input type="checkbox"/>	Set-up <input type="checkbox"/>	Folio/Program <input type="checkbox"/>	Outside Dimensions <input type="checkbox"/>	Centre Not Concentric <input type="checkbox"/>	BOM/Route <input type="checkbox"/>	Grain <input type="checkbox"/>	Over/Under tolerance <input type="checkbox"/>	Cracks <input type="checkbox"/>	Broken/Damage/Defect <input type="checkbox"/>	Weld <input type="checkbox"/>	Part Incorrect <input 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UNDER REVIEW

UNDER REVIEW

ECR: HB ECR 139